

Rice Marketing in Guyana:
Current Problems and Future Prospects

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By

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I. Introduction

The rapid economic decline of the economy of Guyana in the second half of the 1970's is of major concern to the Government of Guyana (GOG) as well as to international lenders such as the U.S. Agency for International Development (A.I.D.). A worsening of the terms of trade plus stagnation in most productive sectors of the economy led to a decline of 1 percent annually in the Gross Domestic Product (GDP) from 1975 to 1980 when measured in constant prices of 1977 [1]. The agricultural sector, which accounts for nearly 25 percent of GDP and is the major source of foreign exchange in the economy, has also stagnated during the second half of the 1970's. The GDP of the agricultural sector has declined since 1978 and the GDP of rice, which is second only to sugar in terms of GDP for agriculture, has declined since 1978.

Although the stagnation of Guyanese agriculture (measured in terms of real G.D.P.) may have natural causes such as hurricanes, droughts, floods, diseases or infestations, government policies toward agriculture must also be examined to determine whether these policies may have caused the stagnation of production.

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The purpose of the present paper is to examine the impact of rice marketing and price policy on the aggregate performance of the rice sector during the 1970's. It will be argued that Guyana, not unlike many other developing countries, has pursued price, exchange rate and marketing policies which have adversely affected the performance of the rice sector. The specific objectives are to: 1) Identify and describe all marketing aspects of GOG's existing rice policy and of USAID/Guyana's proposed rice policy, 2) Analyze the marketing aspects of USAID/Guyana's proposed rice policy, and 3) Develop practical detailed plans for implementing and operating the marketing components of the proposed rice policy.

The Guyana Rice Board (GRB) was formed on December 8, 1973, by the merger of the Guyana Rice Marketing Board (GRMB) and the Guyana Rice Corporation (GRC). As can be seen from Table 1, the GRB has very comprehensive powers to control prices and domestic and export marketing. It has a complete monopoly on rice marketing and prices in Guyana. In recent years, the GRB has suffered from management and financial difficulties and other inefficiencies which have gradually resulted in large operating losses. In May, 1982, the GOG announced several changes to improve the efficiency of GRB. Among the most important of these were:

- a) Establishing 5 regional boards as viable operating units to handle local rice marketing;
- b) Removing all rice sector credit responsibilities from the GRB;

- c) Making the Ministry of Agriculture fully responsible for all rice extension work;
- d) Leasing or selling GRB's fleet of tractors and combines to groups of farmers;
- e) Leasing or selling small GRB rice mills to millers or cooperatives;
- f) Decentralizing GRB's domestic rice sales by moving rice from GRB's mills direct to wholesale outlets in regions;
- g) Phasing out GRB's role in research and seed production.

As of this date, the GOG is still in the process of accomplishing these objectives. It is interesting to note that these changes did not affect GRB's monopoly control over rice marketing and rice prices. This monopoly control over marketing changed somewhat in November of 1982, when the GOG announced that farmers and private millers could sell rice to retailers or consumers. Beginning with the 1983 harvest, private millers will also be permitted to buy paddy rice from farmers for processing and sale in the domestic market. The export market and all rice prices remain subject to GRB control. Hence, the fundamental changes needed to revitalize the rice sector have not been made.

In the next section of this report, the trends in rice production, real farm prices and exports, will be discussed. The GOG monopoly in rice marketing and price policy and USAID's proposed alternatives will be identified and described in the following section. The marketing aspects and implementation plans will be analyzed in the next section and the conclusions will be presented in the last section.

II. Rice Production, Real Farm Prices and Exports

Production and Prices

Agricultural price policy in developing countries^{1s} is often based on a compromise between forces that argue for domestic self-sufficiency and hence high prices and those that argue for low prices to stimulate industrial processing of raw materials and to provide low cost food for urban, industrial workers. Such a compromise often tends to emphasize the level of nominal prices rather than "real prices" (that is, to adjust nominal prices for inflation), and this becomes particularly serious in an inflationary setting where prices are adjusted with a lag.^{1/}

As can be seen in Table 2, the relationship between paddy rice production and real farm prices is quite strong. Real farm prices and nominal farm prices of rice increased from 1970 to 1975. At this same time, paddy rice production expanded from about 200,000 metric tons to nearly 300,000 metric tons in 1975. It is worth noting that during this period the real farm price was essentially unchanged from 1970 to 1973 and paddy rice production was declining. When real farm prices increased dramatically in 1974, paddy rice production expanded rapidly to over 255,000 metric tons. Production increased again in 1975 in response to an increase in real farm prices. The rapid price increase of 1974 was similar to that of many other countries and was a result of world wide price increases for primary commodities including rice, other food products and petroleum.

^{1/} In the present paper, nominal prices will be adjusted for inflation using the Consumer Price Index (CPI) because the GDP deflator is not available.

Perhaps the most striking aspect of Table 2 is that for the next five years (1975 to 1979) the nominal farm price of rice did not change. This caused a substantial decrease in the inflation adjusted real farm price of rice which reached the lowest price of the decade in 1979. After the bumper rice crop of 1977, rice production decreased steadily in response to lower real farm prices for rice. Since 1979, the real farm price of rice has increased and paddy rice production has also increased. This strong relationship between the real farm price of rice and rice production suggests that Guyanese rice farmers are very market oriented, profit oriented and responsive to price changes. With adequate price incentives, the production of rice can increase quite rapidly.

The source of these rice production changes can be identified from the yield and acreage harvested data of Table 3. It is apparent that acreage harvested and yields fluctuate considerably from year to year. In the bumper crop year of 1977 acreage harvested and yield were at record levels. For the entire period, 1970 - 82, the acreage harvested shows no definite trend while the yield shows a definite increasing trend. The yield increases, which have been fairly steady but certainly not rapid, have been due primarily to the adoption of new improved rice varieties.

Exports

Rice exports from Guyana had varied from G\$80 to 100 million annually until 1982, when rice exports declined to about G\$60 million

annually. The decline in 1982 was caused by lower world prices and the loss of some important markets such as Jamaica. Since rice exports account for 45 percent of rice production, prices and income of the rice sector are very dependent upon that export market. As can be seen in Table 4, rice exports increased steadily in the mid 1970's and reached a height of 106 thousand metric tons in 1978. Rice exports declined to about 80 thousand metric tons for the years 1979 - 81 and then dropped to 35 thousand metric tons in 1982.

The export market for rice by type of product has changed dramatically in the 1970's (Table 5). The GRB produces parboiled rice and white rice which may be packaged in 1 to 2 pound packages and then bagged or placed directly in bags for export shipment.^{2/} White rice in bags, the largest export product, has increased from 37 thousand tons to 64 thousand tons in the same time that white packaged rice has decreased to one-third of the 1975 level. Parboiled rice in bags has also decreased rapidly from 11.6 thousand metric tons in 1975 to 3.4 thousand in 1981. However, conversations with people in the Guyana rice industry indicate that the market demand in the Caribbean is now strong for parboiled rice and that the exports of parboiled rice could increase in the near future.

Although packaged rice sales represent only 24 percent of the volume exported, these sales are more important on a value basis because they sell for a higher FOB price.

^{2/} Parboiled rice is paddy which has been soaked in water and then briefly steamed to gelatinize the grain before the hulls are removed in the milling process. The grain is harder and less prone to breakage when milled and has a distinctive odor and taste.

Over 90 percent of GRB's rice exports are to the CARICOM countries identified in Table 6. Trinidad and Jamaica account for nearly all of these sales. These same two countries have also expressed a demand for more parboiled rice. Other destinations for GRB rice include some European and African countries. Exports to non-CARICOM countries have declined from 30 percent of total rice exports in the 1960's to less than 10 percent in the 1980's [2].

GRB exports to the CARICOM market are attractive because of the 15 percent common external tariff on rice. Since Guyana is a CARICOM member, no duty is levied on its rice exports to other members so that Guyana can earn the world market price plus the 15 percent tariff. In fact, Guyana has been able to earn the 15 percent premium and occasionally even more than 15 percent above world market prices for rice exports to CARICOM. However, CARICOM exports are not hard currency sales and may be used only to buy products (e.g. petroleum) from other members. Since Guyana needs vastly increased amounts of hard currency to import goods and services and to service foreign debt, rice exports to other countries must be increased. This can be accomplished through changes in rice export policy and the exchange rate to increase the incentive and reward from rice exports.

III. Rice Marketing in Guyana

Prices and Price Policy

As a rice marketing monopolist, GRB controls retail, wholesale and farm prices and milling margins.³ Table 7 shows that domestic rice prices

³ See Appendix A for the prices of 1982 at retail, wholesale and farm level.

have been held substantially below (one-half) the export price of rice during the 1970's. The paddy price of rice which averages less than 30 percent of the export price during the same period is substantially below the 50 percent that a farmer could receive in a system of reasonable marketing and milling costs and no export taxes for rice. Thus, a rather heavy tax has been imposed on the rice industry of Guyana. One study which attempted to quantify the economic effects of market intervention in the rice sector has estimated that the value of the resources transferred was equal to about one half of the annual paddy crops valued at the price received by producers for the period 1978-81 [3]. About 25 percent of this transfer accrues to consumers, 64 percent to the GRB and the remainder is economic loss from such intervention. The rice producer loss has averaged G\$12.5 million annually in this period!! Even with this substantial source of income the GRB has suffered from operating deficits that had to be covered by subsidies from GOG.

Distortions of this magnitude in the rice sector have led a number of problems such as stagnation of production, low capital and labor productivity, loss of export earnings, inefficient marketing and poor quality of product. In addition such intervention leads to shortages of goods and services at the controlled prices and the emergence of parallel markets where products are sold at substantially higher prices. It is estimated that substantial quantities of goods enter and leave Guyana at the parallel market exchange rate which seems to be about G\$6 or \$7 per US\$1. Products which are generally unavailable in the country in the controlled market are generally available in the parallel market.

Rice Mills and Marketing

The rice marketing system for Guyana, shown in Figure 1, indicates the scope of GRB's involvement at the present time. Guyana had 86 operating rice mills located in six regions in 1981 with a milling capacity of about 110 metric tons of paddy per hour (Table 8). Eleven of the 86 mills are owned by GRB and about 40 percent of the milling capacity is GRB owned. Most of the mills (56 of the 86) are the modern multi-stage mills which are more efficient and produce a better quality product with less broken grain and more recovery of bran.⁴ With 40 percent of the milling capacity, the GRB has milled about half of the total rice milled in recent years (Table 9).

The number of rice mills has decreased by 61 percent from 1967 to 1981 (Table 10). All of the decreases have been private mills and most have been the smaller single stage mills. Thus, rice mill numbers and total milling capacity have been decreasing yet the average size of rice mill has been increasing from 1967 to 1981 (Tables 10 and 11).

Even though the number and capacity of rice mills has declined by 61 percent and the capacity by 40 percent from 1967 to 1981, the remaining capacity is adequate for the current level of rice production in the country. If the 1982 paddy production of 304, 298 metric tons is divided by total milling capacity of 108.8 metric tons of paddy per hour, the result is 2800 hours of time to mill the entire production of

⁴ The multi-stage mills remove the hull and later the outer layers of the grain in a series of processes whereas the single stage mills attempt to complete the entire process in one stage.

the country.⁵ That amounts to only 280 days at 10 hours per day. Milling capacity is therefore not a constraint at current rice production levels nor will it be a constraint at the rice production levels expected in the next few years. The location of mills with respect to the paddy production areas could be a problem in some areas such as Tapacuma and MARDS where production is expected to expand considerably in the next few years.

As a result^{of} the GOG announced changes for GRB in May, 1982, some reduction and relocation of rice mills is underway. Five of the 11 GRB mills have been shut down or are in the process of transfer to the regions. The Belmont mill has been closed and the machinery at the Yakusari mill has been moved to the Johanna mill. The Cane Grove and Dundee mills are in the process of transfer to the regions while the Paradise mill has already been transferred to the regions. When these changes have been completed, the GRB will have six mills; one located at each of the paddy drying and storage facilities.

The rapid closing of private mills in Guyana since 1967, demonstrates that business conditions for these mills has been quite difficult. One important reason for these closings may be narrow milling margins because of the rigid GRB price controls on buying and selling prices and toll milling charges. A second reason may be that the mills which closed are smaller and less efficient than the newer multi-stage mills.

⁵ One rice industry expert has estimated that 5300 hours per mill per year is feasible using 46 weeks per year, 6 days per week, 24 hours per day and 80 percent efficiency. The 46 weeks per year allows for two weeks of downtime between each harvest and two weeks of holidays.

What is clearly evident is that the private mills which are still in business are struggling to survive. For the most part, these mills are living off an investment in facilities and equipment that is 20 or more years old. Because these facilities are fully depreciated, the private millers need only a small return above variable costs of production in order to earn a living in rice milling. The private millers have invested very little in new facilities and equipment in the rice sector because the expected return on that investment would fail to amortize the loan under current economic conditions.

Drying/Storage Centers

The six drying/storage centers that were built as part of the Rice I project are as follows:

1. Somerset/Berks
2. Anna Regina
3. Wakenaam
4. Ruimzigt
5. MARDS/Burma
6. Black Bush Polder

The paddy storage capacity of these facilities and all other facilities in Guyana for 1978 is shown in Table 12. Most (61 percent) of the paddy storage capacity is in bags with 15 percent in bulk and 23 percent in silos built by the Rice I project. The GRB has about 60 percent of the total storage capacity and the private mills

about 40 percent; however, the private mill storage capacity has decreased since 1978 because of the closing of rice mills as discussed above. The GRB has some additional storage capacity for milled rice at the Georgetown and Corriverton re-milling, blending, and packaging facilities.

The total storage capacity of 3,491,000 bags of 140 pounds is adequate to store an entire Spring or Autumn crop as shown in Table 13 assuming that private storage capacity has not decreased significantly since 1978. Not all of the production is sold off farms because Guyanese rice farmers retain about 10 percent of production for seed, feed and home consumption. In addition, rice farmers store paddy on the farm so that the 90 percent of production which flows to market is not all marketed immediately after harvest.

The distribution of storage capacity by regions may however be somewhat problematic. Storage capacity on the Essequibo Coast and West Demerara appears adequate for a crop the size of 1981 but would likely not be adequate in a large crop year. Additional information is needed on farm and private mill storage before the question of storage capacity in relation to production can be answered definitely.

A major problem at all these facilities is their very poor working condition because of poor management, lack of maintenance and shortage of spare parts. Much of the equipment is broken, abandoned and beyond repair while some other equipment can be repaired with the appropriate spare parts. What is most alarming about this state of disrepair is that it occurred in a short period of time. Under proper operating conditions and maintenance the equipment and facilities would have lasted a much longer period of time.

IV. Proposed Changes in Rice Marketing

as identified by Wood

The proposed changes in rice marketing/are shown in Figure 2 and Table 14. The scope of GRB functions would be changed by eliminating the monopoly control on rice marketing and policy and increasing the private sector role. Rice policy would be removed from GRB and placed in an appropriate decision making unit of GOG with an advisory board of rice farmers, millers and GOG representatives. The GRB will be divided into two smaller units (Guyana Rice Company, GUYRICECO and Guyana Rice Export Company, GUYREXCO) with more narrowly defined responsibilities.

GUYREXCO will negotiate CARICOM country marketing agreements which specify quantities, qualities and prices of rice. GOG licensed private exporters will competitively bid on the opportunity to export rice under the CARICOM agreement. GUYREXCO will collect the CARICOM premium for GOG. Since the CARICOM sales are not hard currency sales, part of the premium may have to be paid to the private exporters who will also have the opportunity to make all other export sales. GUYREXCO will also conduct CARICOM market surveys so that exporters can regularly be informed about the consumer preferences toward white rice, parboiled rice, bulk rice, packaged rice, rice quantity etc.

GUYRICECO will retain all six drying and storage facilities to conduct the rice farmer floor price operations as well as the maintenance of a small reserve to protect consumers from rice shortages or unreasonably high prices in the event of a poor harvest. If weekly rice prices are increasing too rapidly, paddy rice could be sold to millers to dampen the price increases or the paddy rice could be toll milled and then sold through private stores and GOG stores to consumers. This rice reserve can be expected to be quite small for several reasons:

1. Rice production has exceeded domestic use every year since 1908.
2. Rice is harvested two times a year in April and May and October and November.
3. Domestic use is only 55 percent of total production so the exportable surplus is large.
4. Sizeable quantities of rice flow to market all months of the year except for January, February, July and August.

Part of the CARICOM premium could be used to finance the rice farmers floor price operation and the consumers reserve.

A most important function of GUYRICECO is to conduct the rice farmer floor price purchase and storage operation to protect farmers from devastating low market prices. In order to guarantee reasonable access to rice farmers in all production areas, all six drying and storage facilities will be needed to implement the floor price plan. In production areas distant from these facilities, GOG approved private millers would purchase paddy

at the floor price and deliver to a specified drying and storage facility.

The floor price should be announced well in advance of planting time so the producer can make his planting decisions based upon a guaranteed market at some minimum price. The floor price will protect farmers from low prices and provide an important competitive alternative market for paddy. A preliminary estimate is that the floor price plan could effectively protect rice prices and represent a competitive marketing alternative with purchases of about 20 percent of rice production.

Some criteria to be used in setting the floor prices are:

1. The ratio of paddy prices to export prices of rice;
2. The variable and fixed costs of rice production;
3. The farm prices of competing crops on rice land;
4. The near-term world wide demand - supply and price outlook.

A second function of these facilities will be to provide drying and storage services to rice farmers and millers at commercial rates. In the case of farmers, the rice can be placed in storage for later sale at a price which will hopefully cover the costs of storage and interest on the stored rice. When the rice is placed in storage, GUYRICECO will issue the farmer a warehouse receipt that specifies the quantity and quality of the paddy in storage. The farmer may use the warehouse receipt as collateral for a bank loan for an amount equal to 80 to 90 percent of the value of the stored rice at the floor price. If market prices increase in the post-harvest period, the farmer may sell the stored paddy at the market price and use the proceeds to pay the loan and storage charges.

If market price do not increase, the rice farmer sells the rice to GUYRICECO at the floor price and uses the proceeds to pay the loan. This option gives the rice farmer the opportunity to profit from post-harvest price increases while at the same time the floor price protects him from losses. Even if market prices fall below the floor price, the farmer is guaranteed the floor price for his rice. The rice farmer receives what is called a non-recourse loan on his rice in storage.

Rice millers will be able to buy paddy from GUYRICECO at prices that cover the costs of drying and storage when they need additional rice for milling. Rice millers will also have the option to rent storage space at GUYRICECO for paddy which they have purchased for later use. In this case the rice miller will be issued a warehouse receipt that could be used as collateral for a bank loan.

The storage options described above transfer part of the storage function and the associated risks and returns from GOG to the private sector. This requires that market prices have the freedom to seek that level which matches seasonal supply and demand for rice. Market prices will determine whether one profits or loses from storing rice.

Prices in the domestic market, free of government controls, will be determined by supply and demand in a competitive market. Any potential problems of price manipulation and lack of competition can be solved by GUYRICECO sales of paddy or milled rice. The market can be expected to be quite competitive because of the low barriers to entry

in retailing and wholesaling. Large amounts of capital or know-how do not prevent new competition in retailing or wholesaling as might be the case in other business. It is highly unlikely that a domestic rice market, free of government controls, could become as concentrated and unresponsive to consumer demands as that which existed under GRB. Nor is it likely that the number of rice mills going out of business (therefore increasing miller concentration) could occur more rapidly in a price competitive domestic market than what occurred under GRB in the last 10 years.

It is proposed that the 11 GRB rice mills and the two blending plants at Georgetown and Corriverton be transferred to GUYSTAC for lease to the private sector with an option to buy. This should be a multi-year lease with a purchase option before the expiration of the multi-year lease. In order to guarantee access of small millers or even farmers to the export market, it is proposed that the blending plants should be leased to the private sector and managed on a services rendered basis. In other words, anyone who wants to export rice could hire the services of these facilities to re-mill if necessary and to blend, clean and bag or packaged rice for export.

A Grain Inspection Service (GIS) will inspect and grade all export rice at the export port. No rice can be exported without passing the inspection and grading service. This will be an independent service financed by the user on a services rendered basis. All domestic rice handling facilities will also be subject to periodic inspection and all rice buyers will have employees who are rice graders trained and

licensed by GIS. This should improve the quality of rice throughout the system and create a system of price incentives that rewards rice farmers, rice millers and consumers for a quality product at a reasonable price.

V. Conclusions and Recommendations

The GDP of Guyanese agriculture and more specifically the rice sector has stagnated in the late 1970's. Adverse government marketing and price policy have contributed significantly to this stagnation. Although nominal farm prices for rice have increased from 1970 to 1982, converting to the real farm price using the CPI deflation reveals lower real farm prices since 1975. There appears to be a strong relationship between real farm prices and paddy production. When real farm prices declined in the late 1970's, paddy production also declined. Government price policies have either ignored the effects of inflation on rice prices or have attempted to combat inflation through agricultural price controls, and these have been costly in terms of agricultural output foregone.

Rice acreage and yield vary considerably from year to year; however, yields show a slowly increasing trend in the 1970's while acreage does not consistently increase or decrease. Rice exports equaled G\$60 million in 1982 which is G\$20-30 million less than what was earned throughout most of the 1970's. Since exports represent about 45 percent of rice production, rice farmer prices and income are very dependent upon the export market. Over 90 percent of all rice exports are to the CARICOM countries (especially Trinidad and Jamaica) where Guyana rice sells for a premium above world market prices. In this market, parboiled rice sales and packaged rice sales have decreased rapidly while bagged white sales have increased rapidly since the mid 1970's.

The domestic rice market has been insulated from the export market. Domestic rice prices are about half the export price and the paddy price is only 30 percent of the export price. Through the over-valued exchange rate and domestic farm prices, the GOG has imposed a heavy tax on the rice sector.

Price and margin controls and GRB mills ownership have contributed to a 61 percent decline in the number of rice mills and a 40 percent decline in milling capacity since 1967. Since the smaller private mills have gone out of business, the average size of mill has increased. At the present time, the country has about 86 operating rice mills with a total of 110 tons of paddy per hour. Milling capacity is not a constraint at current rice production levels.

The country has storage capacity adequate to store either the Spring or Autumn harvest. About 60 percent of this capacity is owned by GRB, most of which is located at the six GRB drying and storage centers. Storage capacity could be a problem in some production regions.

. Several changes are proposed to revitalize the rice sector. Foremost among these is to eliminate the GRB monopoly control on rice marketing and increase the private sector role. Reliance upon market forces to determine prices and a devaluation of the Guyanese dollar to promote exports are proposed. GRB mills would be leased or sold to the private sector and two smaller more specialized companies would be created to handle CARICOM sales and a producer floor price plan. A rice inspection service is proposed to improve rice quality in domestic and export markets.

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Table 1. Present Functions of the
Guyana Rice Board, 1983

Functions
Determines rice policy for the entire sub-sector.
Establishes controlled rice prices at retail, wholesale and farm level
Operates a floor price system for paddy rice
Negotiates all export sales and supplies rice for all such sales to CARICOM and other world markets
Sells rice in domestic market jointly with millers, traders and farmers
Owns and operates 11 rice mills, 2 blending facilities and 6 paddy drying and storage facilities
Grows paddy for processing and sale
Grows, processes and distributes rice seed
Inspects all rice for standards and grades

Source: Wood

Table 2. Production and Real Farm Prices
of Rice in Guyana, 1970 - 82

Year	Nominal Farm Price	CPI Deflator	Real Farm Price	Production of Paddy
	\$G/140 bag	1970 equal 100	\$G of 1970	Metric Tons
1970	7.30	100.0	7.30	222,416
1971	8.21	101.7	8.07	187,490
1972	8.26	106.7	7.75	147,101
1973	10.15	117.2	8.66	152,323
1974	15.62	140.3	11.13	255,825
1975	17.45	148.7	11.74	297,028
1976	17.45	161.7	10.79	172,883
1977	17.45	179.1	9.74	358,205
1978	17.45	214.0	8.15	308,133
1979	17.45	247.4	7.05	240,193
1980	21.01	279.1	7.53	281,779
1981	24.92	340.1	7.31	271,647
1982	29.37	375.0	7.83	304,298

Source: World Bank for nominal farm prices and Guyana Rice Board for other data.

Table 3. Rice Production, Area Harvested and Yields in Guyana, 1970-82.

Year	Acreage Harvested	Paddy Yield in 140 lbs. Bags per Acre	Production of Paddy	Production of Milled Rice
			----- Metric Tons -----	
1970	294,382	11.9	222,416	114,571
1971	233,542	12.6	187,490	121,869
1972	196,272	11.8	147,101	95,616
1973	229,268	10.5	152,323	99,011
1974	261,180	15.4	255,825	165,617
1975	287,861	16.2	297,028	178,216
1976	207,546	13.1	172,883	103,729
1977	337,322	17.5	358,205	214,921
1978	283,672	17.1	308,133	184,941
1979	222,863	17.0	240,493	144,293
1980	239,100	18.7	281,779	169,067
1981	219,962	19.7	271,647	162,988
1982 ^{a/}	235,344	20.3	304,298	181,598

^{a/} Preliminary estimates

Source: Guyana Rice Board

Table 4. Participation of Guyana Rice Board in the
Marketing of Rice in Guyana, 1973 - 81

Year	Rice Production	Purchases	Exports ^{a/}	Domestic Sales ^{a/}	Change in Inventory
----- Thousand Metric Tons -----					
1973	111.8	76.3	48.8	20.3	7.2
1974	155.8	78.3	51.8	25.4	1.1
1975	162.6	126.0	83.3	54.9	-12.2
1976	111.8	124.0	72.5	46.7	4.8
1977	241.9	150.4	67.1	46.7	36.6
1978	185.0	127.0	106.5	39.6	-19.1
1979	145.1	124.0	85.1	37.0	1.9
1980	169.1	129.1	80.8	37.0	11.3
1981	163.0	125.3	79.3	30.1	15.9
1982	181.6	N.A.	34.8	45.0	N.A.

Source: Guyana Rice Board and World Bank

^{a/} Exports and domestic use are very probably higher than the quantities reported here because of contraband sales to neighboring countries and domestic rice sales by persons other than GRB.

Table 5. Rice Exports By Type of Product
From Guyana 1975 - 81.

Year	Parboil First Quality	White First Quality	Parboil Packaged	White Packaged	Total	Unit Value
	----- Thousand Metric Tons -----					\$G/MT
1975	11.6	36.6	0.7	34.3	83.4	1,018
1976	9.7	31.9	1.8	28.4	71.8	1,081
1977	12.1	37.2	0.2	20.5	69.9	956
1978	10.5	83.5	0.4	10.3	104.7	917
1979	9.7	62.4	0.5	11.5	84.1	961
1980	2.1	69.5	0.7	8.7	81.0	1,080
1981	3.4	63.9	1.1	9.5	78.0	1,410
Percent of total for 1975-81	10.4%	61.2%	1.0%	22.4%	100.0%	

Source: Reca and Maffucci

Table 6. Rice Exports from Guyana
by Destination, 1982

Destination	Bags of 110 lbs	Packages 10.0 lbs/pack	Total Metric Tons	Value Thousands of G\$
Antigua	2,500	500	138	259.2
Barbados	35,418	3,269	1,845	3,354.7
Grenada	-	1,100	30	72.0
Jamaica	76,056	66,103	4,670	7,055.1
St. Vincent	4,035	-	200	351.6
Trinidad	542,456	36,806	27,418	48,528.3
Guadeloupe	6,052	-	300	452.8
Martinique	4,641	-	230	356.2
TOTAL	671,158	107,778	34,831	60,429.9

Source: Guyana Rice Board

Table 7. A Comparison of the Export, Domestic and Paddy
Prices of Rice for Guyana, Selected Years

Years	Export Price of Rice	Domestic Price of Rice	Paddy Price	Paddy Prices as Per- cent of Export Prices
	----- \$G/Long Ton -----			
1973/1974	573.4	205.6	158.1	.285
1975/1977	642.6	171.3	171.9	.270
1978/1979	412.9	201.0	121.6	.295
1980/1982	406.7	206.1	118.7	.295
1982	407.0	280.0	112.0	.27

Source: Guyana Rice Board

Table 8. Number of Rice Mills in Operation By Type and
Milling Capacity by Ownership, Guyana, 1981

Region	<u>Rice Mills in Operation</u>			<u>Capacity of Rice Mills</u>		
	Single Stage Mills	Multi Stage Mills	Total	GRB Mills	Private Mills	Total Mills
	----- Units -----			-- Tons of paddy per Hour --		
East Berbice	11	27	38	9.0	30.3	39.3
West Berbice	3	-	3	-	1.5	1.5
East Demerara	10	7	17	24.5	915	34.0
West Demerara	3	7	10	1.0	10.5	11.5
Essequibo Islands	3	10	13	1.0	11.5	12.5
Essequibo Coast	1	4	5	7.0	3.0	10.0
Total	31	55	86	42.5	66.3	108.8

Source: Guyana Rice Board

Table 9. Rice Milling By GRB and
Private Mills, Guyana, 1978-80

Mills Ownership	Quantity Milled in Thousand Metric Tons		
	<u>1978</u>	<u>1979</u>	<u>1980</u>
GRB	84.1	83.2	90.2
Private Sector			
Under GRB contract	NA	19.7	10.8
Private account	NA	41.3	68.0
Total private sector	100.8	61.0	78.8
Total milled	184.9	144.2	169.0

Source: Guyana Rice Board

Table 10. Changes in the Number of Rice Mills
in Guyana, 1967, 1977 and 1981

Region	Number of Rice Mills in Operation			Percent Changes 1967-81
	1967	1977	1981	
East Berbice	72	52	38	-48
West Berbice	15	14	3	-80
East Demerara	42	27	17	-60
West Demerara	33	14	10	-70
Essequibo Islands	31	24	13	-59
Essequibo Coast	23	10	5	-79
TOTAL	216	141	86	-61

Source: Guyana Rice Board and Checchi and Company

Table 11. Changes in Paddy Rice Milling Capacity
in Guyana, 1967, 1977 and 1981

Region	Paddy Rice Milling Capacity					
	Single-Stage Mills			Multi-Stage Mills		
	1967	1977	1981	1967	1967	1981
	Metric tons per hour					
East Berbice	19.2	14.0	6.0	33.2	36.2	34.75
West Berbice	6.5	6.5	2.0	3.0	3.0	0.0
East Demerara	16.2	8.5	7.0	31.0	30.0	27.0
West Demerara	11.2	2.0	3.5	14.5	12.0	8.0
Essequibo Islands	6.0	3.5	2.0	17.5	17.0	11.0
Essequibo Coast	8.5	1.5	1.0	13.0	14.5	9.0
TOTAL	67.6	36.0	21.5	112.2	112.7	89.75

Source: Guyana Rice Board and Checchi and Company

TABLE 12. DAILY STORAGE CAPACITY (1978)

Location	Silos	Bulk Funds	Bag Funds	Total
(in 140 lb. bags)				
E. Guibo Coast	300,000	160,000	150,000	470,000
* Guibo P. gine	160,000	160,000	150,000	470,000
* S. Met/Derks	140,000	-	-	140,000
Private Mills	-	-	100,000	100,000
Islands	80,000	-	180,000	260,000
* W. Team	80,000	-	-	80,000
Private Mills	-	-	70,000	70,000
Inguan	-	-	-	-
Private Mills	-	-	110,000	110,000
W. Pararara	160,000	-	120,000	280,000
* P. Night	160,000	-	-	160,000
Private Mills	-	-	120,000	120,000
E. Pararara	160,000 ^{1/}	365,000	546,000	1,071,000
* MARDS	160,000 ^{1/}	365,000	174,000	699,000
D. d. e	-	-	35,000	35,000
P. Monte	-	-	20,000	20,000
Cane Grove	-	-	45,000	45,000
Private Mills	-	-	272,000	272,000
W. Barbice	-	-	105,000	105,000
Private Mills	-	-	105,000	105,000
E. Barbice	120,000	-	945,000	1,065,000
* Black Bush Polder	120,000	-	240,000	360,000
Whim	-	-	5,000	5,000
Private Mills	-	-	700,000	700,000
Total	820,000	525,000	2,146,000	3,491,000
Percent	23	15	61	100

Source: GRB, Production Division.

Note: Asterisk (*) denotes GRB facilities.

^{1/} At MARDS, 32,000 bags of seed storage was also provided under the Rice Modernization I Project.

Table 13. Paddy Production By Region for
Spring and Autumn Crops 1981

Region	Spring Crop		Autumn Crop	
	Production in 140 lb bags	Percent of Total	Production in 140 lb bags	Percent of Total
Essequibo Coast	601,600	29.9	628,800	28.1
Islands	52,800	2.5	158,400	7.1
West Demerara	233,600	11.2	217,600	9.6
East Demerara	492,800	23.8	620,800	27.7
West Berbice	49,600	2.4	73,600	3.3
East Berbice	644,800	31.1	540,800	24.2
TOTAL	2,078,400	100.0	2,240,000	100.0

Source: Guyana Rice Board

TABLE 14

Proposed Allocation of Rice Subsector Functions to
GOG entities and the Private Sector

<u>GOG Entities and Functions</u>	<u>Private Sector Functions</u>
1. <u>GUYRICECO (GRB)</u>	
: Drying and Storage Facilities, including rehabilitation	: Domestic Market Sales
: Floor price operations	: CARICOM market Sales
: Domestic market sales (safety net)	: Other world market Sales
: CARICOM sales (safety net)	: Large and small mills
: Rice seed production, processing and distribution	: Blending facilities
: Options on toll milling capacity	: Import & distribution of inputs and spares
	: Operation of Blackbush drying & storage units
	: Machinery hire services
2. <u>GUYREXCO</u>	
: CARICOM Country framework marketing agreements	
: CARICOM buyer-Guyanese seller arrangements via agency	
: Excise Tax	
: CARICOM market research	
3. <u>GIS</u>	
: Inspect and grade rice	
: Rice statistics (MOA planning office)?	
4. <u>GUYSTAC</u>	
: Ownership of leased mills	
: Receipt of lease and sales proceeds from mills and blending facilities	

TABLE 14 (cont'd)

Allocation of Rice Subsector Functions to
GOG entities and the Private Sector

<u>GOG Entities and Functions</u>	<u>Private Sector Functions</u>
5. <u>GNTC</u>	
: Import & distribution of purchased inputs	
6. <u>MOA</u>	
: Rice seed improvement	
: Rice research	
: Irrigation and drainage	
: Extension	
: Rice policy analysis and statistics	
7. <u>GAIBANK</u>	
: Credit to rehabilitate paddy drying and Storage, large mills and blending facilities	
: Credit for paddy farmers	
8. <u>CENTRAL BANK</u>	
: Allocation of foreign exchange to rice subsector and individuals in it	
: Recipient of foreign exchange earned by rice subsector	
: Partial devaluation for rice subsector (& other export oriented sectors)	

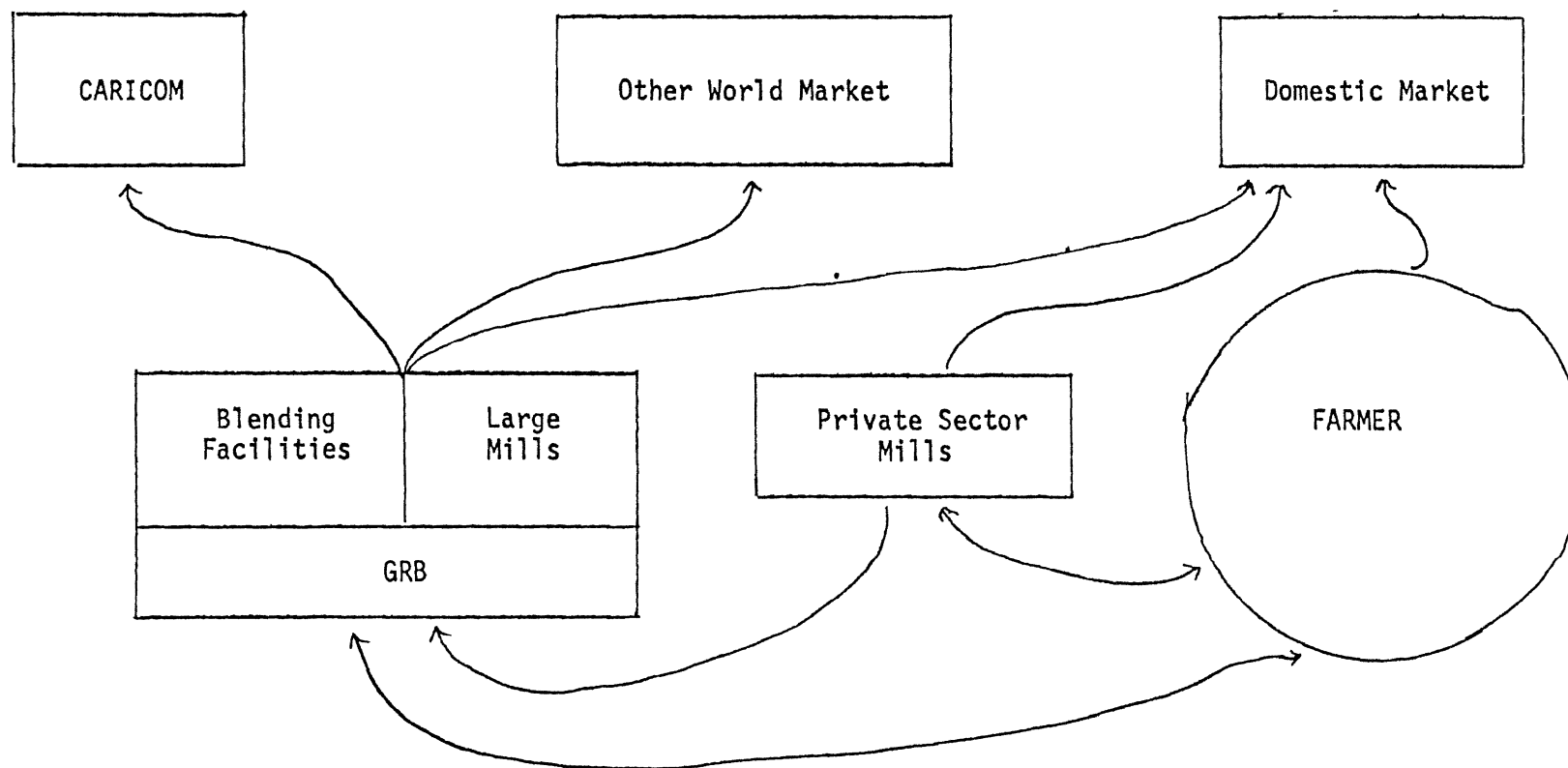


Figure I. -- Schematic Diagram of Rice Subsector at Present

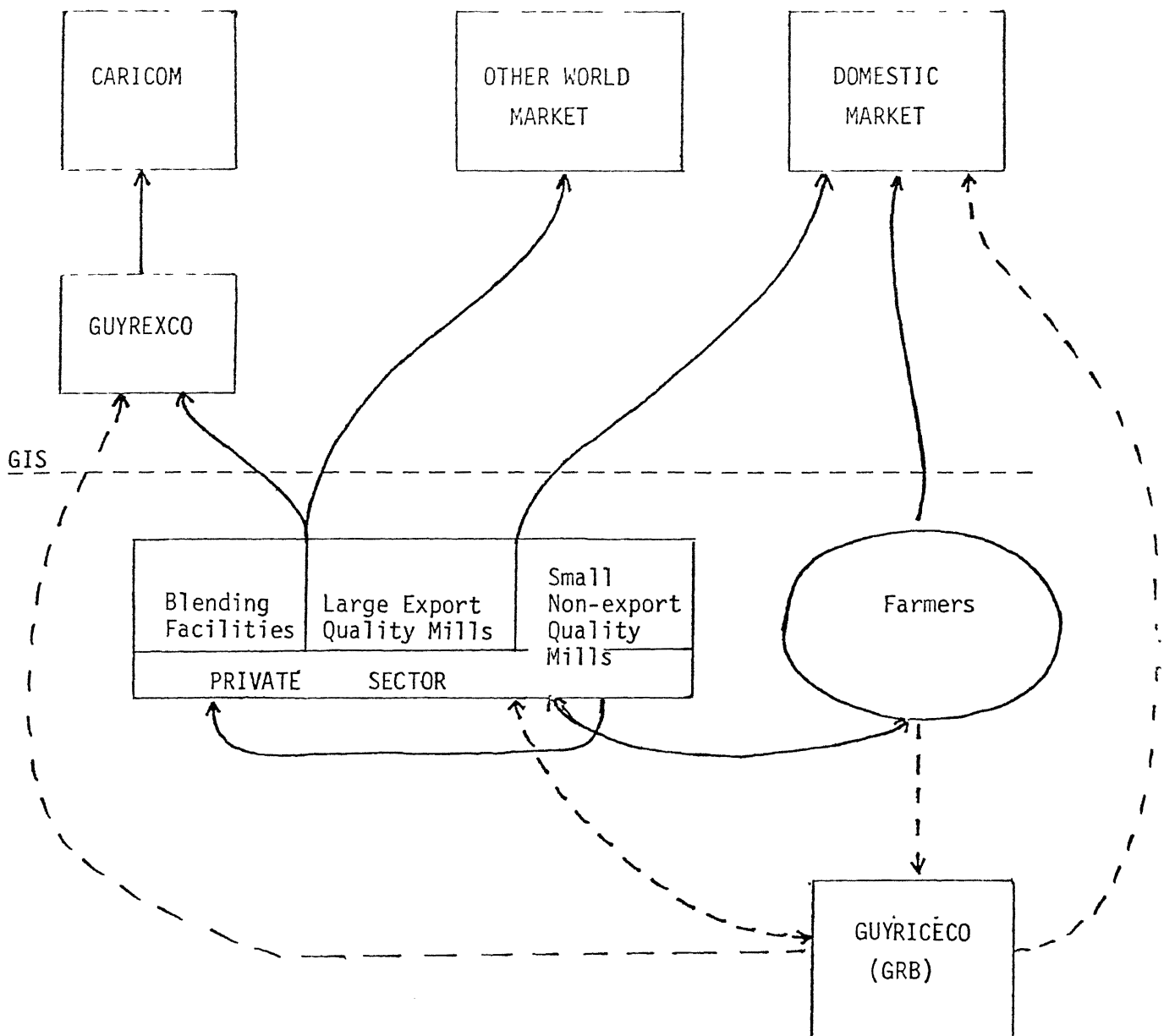


Figure 2 -- Schematic Diagram of the Rice Subsector as Proposed

GUYANA RICE BOARD

GUYANA RICE BOARD ACT, (CHAPTER 72:01)

In pursuance of Section 17 of the Guyana Rice Board Act, (Chapter 72:01) notice is hereby given that the Board has, with the approval of the PRESIDENT determined and fixed the following prices.

1. Purchase Prices:

Effective as from: February 2, 1982

(a) Prices to be paid by the Guyana Rice Board for the purchase of padi delivered at any of the Board's padi purchasing centres, are as follows:—

(i) Approved Varieties — (These include, Starbonnet, Bluebelle 'N', Rustic and Champlon)

Extra A — \$33.00 per bag of 140 lbs/ 63.5 kg net

A — \$31.50 " " " " " " " "

B — \$30.00 " " " " " " " "

C — \$27.75 " " " " " " " "

Padi of inferior quality below 'C' Grade is purchased at a negotiated price of \$23.50 per bag of 140 lbs net 63.5 kg.

(ii) Other Varieties —

Extra A — \$33.00 per bag of 140 lbs/ 63.5 kg net

A — \$31.50 " " " " " " " "

B — \$30.00 " " " " " " " "

C — \$27.75 " " " " " " " "

D — \$25.25 " " " " " " " "

Padi of inferior quality below 'D' Grade is purchased at a negotiated price of \$21.50 per bag of 140 lbs./net 63.5 kg.

(a) The minimum price to be paid to a rice farmer by a purchaser other than the Guyana Rice

— per bag of 180 lbs./ 110 lbs. gross delivered at any of the Board's rice purchasing centres.

(c) The prices to be paid by the Guyana Rice Board for the undernoted grades of White Rice from an approved variety of padi shall be as follows:—

Extra

White A — \$77.20 per bag of 180 lbs gross/81.8 kg

Extra

White A — \$47.25 " " " 110 lbs gross/50 kg

White A — \$74.20 " " " 180 lbs gross/81.8 kg

White A — \$45.50 " " " 110 lbs gross/50 kg

White B — \$70.60 " " " 180 lbs gross/81.8 kg

White B — \$43.25 " " " 110 lbs gross/50 kg

White C — \$64.70 " " " 180 lbs gross/81.8 kg

White C — \$39.50 " " " 110 lbs gross/50 kg

White A

Broken — \$52.70 " " " 180 lbs gross/81.8 kg

White A

Broken — \$32.25 " " " 110 lbs gross/50 kg

White B

Broken — \$47.70 " " " 180 lbs gross/81.8 kg

White B

Broken — \$29.25 " " " 110 lbs gross/50 kg

Broken

— per bag of 180/ 110 lbs. gross delivered at any of

the Board's rice purchasing centres.

2. All Minimum Specifications for different grades of White and Parboiled Rice to be purchased by the Guyana Rice Board as well as definition of Grade Factors, Rice Grading and Intrinsic Character remain the same as published in the Official Gazette of 8th October, 1979.

B. ORDER OF THE
GUYANA RICE BOARD

C.A. Saul
Executive Chairman

[No. 2136].

REGULATIONS

Made Under

(Cap. 72:01)

UNDER SECTION 43 OF THE GUYANA RICE BOARD ACT THE FOLLOWING REGULATIONS HAVE BEEN MADE BY THE GUYANA RICE BOARD WITH THE APPROVAL OF THE GUYANA STATE CORPORATION:—

1. These regulations may be cited as the Rice Milling Fees Citation.

Regulations 1980.

2.(a) The fees which a manufacturer may charge for any operation in the process of milling padi into white rice are set out in the second column of Part A of the Schedule in relation to the operation mentioned in the first column of that Part.

(b) The fees which a manufacturer may charge for any operation in the process of milling of padi into parboiled rice are set out in the second column of Part 8 of the Schedule in relation to the operation mentioned in the first column of that Part.

3. A rice farmer may undertake by himself or at his expense any operation (excluding actual milling) in the process of milling of padi (produced by him) into rice and he shall pay a manufacturer the fees for only those operations rendered by the manufacturer at the rates fixed therefore by regulation 2.

Rice farmer to pay for those operations only rendered by manufacturer.

Penalty.

4. Any person who contravenes these regulations is liable on summary conviction to a fine of three hundred dollars or to imprisonment for three months

Board for padi which must be clean, dry and well winnowed, shall be at a rate of \$24.25 per bag of 140 lbs./net 63.5 kg delivered at a rice factory or at a point mutually agreed upon provided that if the rice farmer sells and delivers the said padi at any place other than a rice factory, the minimum price payable shall be as above but the purchaser shall be entitled to deduct a reasonable transportation charge agreed upon between the parties for the removal of the padi to a rice factory and provided further, that in the case of an approved variety of padi of a minimum purity of 90% the minimum price shall be \$25.50 per bag of 140 lbs./63.5 kg.

[b] The prices to be paid by the Guyana Rice Board for parboiled rice purchased from a producer shall be as follows:—

Extra				
Super	—\$80.10	per bag of 180 lbs gross/81.8 kg		
Extra				
Super	—\$49.00	" " " 110 lbs gross/50 kg		
Super	—\$77.10	" " " 180 lbs gross/81.8 kg		
Super	—\$47.25	" " " 110 lbs gross/50 kg		
Extra				
No. 1	—\$73.50	" " " 180 lbs gross/81.8 kg		
Extra				
No. 1	—\$45.00	" " " 110 lbs gross/50 kg		
No. 1	—\$69.60	" " " 180 lbs gross/81.8 kg		
No. 1	—\$42.50	" " " 110 lbs gross/50 kg		
Extra				
No. 2	—\$65.60	" " " 180 lbs gross/81.8 kg		
Extra				
No. 2	—\$40.10	" " " 110 lbs gross/50 kg		
No. 2	—\$62.60	" " " 180 lbs gross/81.8 kg		
No. 2	—\$38.25	" " " 110 lbs gross/50 kg		
No. 3	—\$3.60	" " " 180 lbs gross/81.8 kg		
	—\$32.75	" " " 110 lbs gross/50 kg		
Super				
Broken	—\$53.60	" " " 180 lbs gross/81.8 kg		
Super				
Broken	—\$32.75	" " " 110 lbs gross/50 kg		
Broken	—\$47.60	" " " 180 lbs gross/81.8 kg		
Broken	—\$29.10	" " " 110 lbs gross/50 kg		
Negotiable	—\$35.60	" " " 180 lbs gross/81.8 kg		
Negotiable	—\$21.75	" " " 110 lbs gross/50 kg		

GUYANA RICE ACT (CHAPTER 72:01)

In pursuance of Section 17 of the GUYANA RICE BOARD Act, (Chapter 72:01) the Guyana Rice Board hereby gives notice that the Board has, with the approval of the PRESIDENT, determined and fixed the following prices:—

LOCAL SALES PRICES

Effective as from February 2, 1982.

The prices at which the Board shall sell rice for consumption within the country shall be as follows:—

BULK

Super	—\$86.40	" " " 180 lbs gross/81.8 kg
Super	—\$52.80	" " " 110 lbs gross/50 kg
No. 1		
Parboiled	—\$79.90	" " " 180 lbs gross/81.8 kg
No. 1		
Parboiled	—\$49.00	" " " 110 lbs gross/50 kg
No. 1		
White	—\$79.90	" " " 180 lbs gross/81.8 kg
No. 1		
White	—\$49.00	" " " 110 lbs gross/50 kg

PACKAGED

Guyana White	—\$37.00	per sack of 60 lbs
" "	—\$40.70	" " " 30 kg
Indian Maid Parboiled	—\$38.50	" " " 60 lbs
" "	—\$42.50	" " " 30 kg
Guyana Parboiled	—\$38.50	" " " 60 lbs
" "	—\$42.50	" " " 30 kg
Guyana Super	—\$38.50	" " " 60 lbs
" "	—\$42.50	" " " 30 kg
Demerara White	—\$37.00	" " " 60 lbs
" "	—\$40.70	" " " 30 kg
Demerara Parboiled	—\$38.50	" " " 60 lbs
" "	—\$42.50	" " " 30 kg
Pearl	—\$44.00	" " " 60 lbs
Pearl	—\$48.50	" " " 30 kg
Indian Maid White	—\$18.50	" " " 30 lbs
" "	—\$20.35	" " " 15 kg
Other Brands (White)	—\$18.50	" " " 30 lbs
" "	—\$20.35	" " " 15 kg

BY ORDER OF THE
GUYANA RICE BOARD

(No: 2137)

C. A. SAUL
Executive Chairman

SCHEDULE

PART A

Operations in the process of milling padi into white rice	Fees — for every bag of white rice of 180 lb/81.8 kg gross weight produced
Drying	\$1.50
Feeding into hopper	.40
Actual Milling	4.50
Bagging	.20
Stacking	.25
Miscellaneous	.25
	\$7.10

PART B

Operations in the process of milling padi into par-boiled rice	Fees — for every bag of parboiled rice of 180 lb/81.8 kg gross weight produced.
Drying	\$1.00
Soaking)	
Steaming)	3.00
Dipping)	
Drying)	
Actual milling	4.50
Bagging	.25
Stacking	.25
Miscellaneous	\$1.00
	\$10.00

made this 2nd day of February, 1982.

C. A. Saul
Executive Chairman

Guyana Rice Board.

Approved this 2nd February, 1982.

D. I. Yankana
Executive Vice-President

Guyana State Corporation.